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Critical exponents in fermionic hierarchical model

Stepanov R.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We consider the problem of algebraic computation of the critical exponent ν in the 2N-component fermionic Dyson model on a hierarchical lattice without the use of perturbation theory. Analyzing the results in a particular case when N = 2, we conclude that an algebraic approach in this model gives the same expression for ν as the approach of functional integration via Feynman diagrams in the p-adic φ{symbol}4-model. © Pleiades Publishing, Ltd., 2009.

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